DOCUMENT RESUME

ED 202 228 FL 012 301

AUTHOR Bialystok, Ellen; Frohlich, Maria
TITLE Oral Communication Strategies for Lexical Difficulties.
INSTITUTION Utrecht State Univ., The Netherlands.
PUB DATE 80
NOTE 29p.; Small type.
JOURNAL CIT Interlanguage Studies Bulletin; v5 n1 p3-30 1980

EDRS PRICE MF01/PC02 Plus Postage.
DESCRIPTORS Adolescents; Adults; Communicative Competence (Languages); *Error Analysis (Language); French; Individual Differences; *Language Processing; Language Proficiency; Language Research; *Learning Processes; Psycholinguistics; *Second Language Learning; *Speech Communication

ABSTRACT

This study examined the conditions for the selection of certain communication strategies in terms of the inferencing ability of the learner, the formal proficiency level attained, and the features of the communicative situation (task requirements). Two groups of 17-year-olds--one studying advanced French and the other French as part of a "core" program--and 14 adults in a civil service French program were the subjects. All were administered a cloze test, a Danish sentence translation task, and picture reconstruction and description tasks. Based on test results, a typology of oral communication strategies was constructed, to which the distinction between first- and second-language-based strategies was fundamental. Strategies were found to be categorizable according to their relationship to two factors: attention to the linguistic aspects of the target item, which exists along a continuum of usefulness to learning objectives; and learner characteristics, which help determine predominance of first- or second-language-based strategies. Specifically, it was found that inferencing ability determines strategy selection and use, once proficiency has achieved a sufficient level of expertise. Finally, strategy choice was found to be highly contextual. (JB)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
NATIONAL INSTITUTE OF EDUCATION

THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL NATIONAL INSTITUTE OF EDUCATION POSITION OR POLICY

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY

M. Fröhlich

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

ED202228

Oral Communication Strategies for Lexical Difficulties[1]

Ellen Bialystok and Maria Fröhlich

The Ontario Institute for Studies in Education

Recent emphasis in second language learning and language pedagogy has focused on the development of communicative competence (e.g. Savignon, 1972; Van Ek, 1975; Wilkins, 1976; Munby, 1978; Widdowson, 1978). While definitions for this ability differ, a distinction is generally maintained between 'linguistic competence' which refers to the learner's knowledge of the code as a formal system and communicative competence, the learner's ability to use that system in order to communicate effectively with others. Other models such as that of Canale and Swain (in press), posit linguistic or grammatical competence as a component of communicative competence. Regardless of the theoretical description, however, the learner's formal mastery of structures is considered to be independent of the ability to use those structures effectively.

The distinction between linguistic and communicative competence presupposes a gap between what a learner is technically capable of expressing through the code and what the learner intends to express in terms of communicative needs. The means by which a learner attempts to close that gap are called 'communication strategies', and the degree to which they are successful provides an index of communicative competence. Canale and Swain (in press) have formalized that relationship by suggesting that "strategic competence" is another of the components of communicative competence.

One of the clearest areas that mark the gap between formal and communicative competence is that of mastery of the lexicon. Tarone (1977), in fact, defines communication strategies in just those terms: '(those strategies) used for the communication of a desired concept when the requisite target language term is lacking' (p. 194). While we would not restrict the definition of strategies to those devices used to only solve lexical difficulties, we do recognise the importance of lexis to communication and hence follow others in the study of communication strategies through the learner's attempts to deal with vocabulary.

Recent studies using different methodological approaches and studying second-language learners of different ages and proficiency levels have examined the oral communication strategies used to convey meaning. In an investigation by Hamayan and Tucker (1979), for example, children listened to a story and were then asked to retell it in their own words. Tarone (1977) presented adult second-

FL 012 301

Interlanguage Studies Bulletin (Utrecht)
vol nl p3-30 1980

language learners with a series of pictures and asked them to describe these, first in their native language and then in the target language, in order to isolate the "intended meaning" (Varadi, 1973) of what the learner tries to express. Dittmar and Rieck (1979) employed the technique of elicited translation with adult Spanish-speaking workers in Germany, who were asked to spontaneously translate a Spanish story recorded on tape into German, sentence by sentence. Blum and Levenston (1978) examine the processes and strategies of lexical simplification in a variety of linguistic contexts – translation, usage of second language learners and teachers, and simplified reading texts. These elicitation techniques all provide a topical framework within which the subject must function; they vary, however, in the extent to which they force the learner to attempt communication and in the control over the selection of specific structures or lexical items.

The analyses of the speech produced in these experiments have led to the development of taxonomies of communication strategies. Tarone's preliminary taxonomy (1977) which is based on an earlier terminological framework (see Tarone, Cohen, Dumas, 1976) identified five major categories of communication strategies — avoidance, paraphrase, conscious transfer, appeal for assistance, and mime. Briefly, avoidance occurs when the learner ignores or abandons a topic because of inability to express the meaning; paraphrase occurs when the learner rewords the message 'in an alternate, acceptable target language construction in situations where the appropriate form or construction is not known or not yet stable' (p. 198); conscious transfer occurs when the learner deliberately borrows from another language; appeal for assistance occurs when the learner consults an authority for the correct term; and mime occurs when gestures are used to convey meaning.

While the development of such taxonomies has been critically important to our understanding of communication strategies in that they have provided a systematic framework for studying and describing the learner's language, what they have not yet accomplished is an understanding of the conditions under which particular strategies are employed. Is there, for example, a relationship between the learner, the task, and the communication strategy that will be adopted? And if such a relationship exists, what are the factors that determine the selection of a particular strategy? Moreover, how can we compare effectiveness of the strategies for communicating the intended meaning? It is the discovery of these relationships that was the primary purpose of the present study.

Tarone's strategies, with the exception of 'avoidance', indicate means by which the learner attempts to overcome his deficient knowledge of the target language by exploiting different sources of information to formulate linguistic hypotheses — an approach we have previously described as 'inferencing' (Bialystok, 1979). The strategy "transfer" for example, is an instance of inferencing

from native-language knowledge; "mime" utilizes the physical context of the interaction. Communication strategies may thus be specific realizations of the general inferencing strategy in which the learner forms and tests hypotheses, and the ability or willingness to use the inferencing strategy may be one of the factors determining the learner's effective use of communication strategies. What, then, is the role of inferencing in the use of communication strategies? Specifically, do language learners who may be characterized as 'good inferencers' select and use communication strategies differently from those who would be considered 'poor inferencers'?

A second factor which may bear on the use of communication strategies is the formal level of proficiency attained by the learner. While linguistic and communicative competence are assumed to be distinct abilities, their development, nonetheless, is probably highly interdependent for a particular learner. For example, some strategies may be precluded by an insufficient formal knowledge of the target language while others would not be exploited by more advanced learners. Given that there may be great variation in the effectiveness of the various strategies, it is important to determine whether there is a relationship between the strategies used and the proficiency level of the learner.

Finally, the task itself may bias the learner to select particular strategies. There are at least two potential sources of this bias — the concept itself may suggest a particular strategy as the most obvious or the most effective way of expressing the meaning when the correct term is not known, or the communicative situation, given empirically by the experimental task, may make certain strategies prepotent. These relationships also need to be determined.

The purpose of the present study was to examine the conditions for the selection of certain communication strategies in terms of the three factors outlined above — the inferencing ability of the learner, the formal proficiency level attained, and the features of the communicative situation, specifically, the target concepts and the task requirements.

Although the design of the study was addressed to those three questions, the investigation required that a coherent system be developed in which to describe the strategies. Hence, a preliminary yet critical aspect of the study is the development of a taxonomy of communication strategies for describing our data. The study began with the examination of existing taxonomies and made modifications on the basis of all the data collected in our study.

Finally, having developed a taxonomy and explored the relationships between our experimental factors and the use of particular strategies, the communicative effectiveness of the strategies may be examined. A tentative beginning to the exploration of this question is also reported.

Method

Subjects

The study was conducted with three groups of subjects who represented two age levels and three proficiency levels. Since the factors of age and proficiency were not independent, however, only proficiency differences will be considered in the groupings. In addition, it was the adult group that was most proficient and we expect that their greater experience, given by their age, contributed to that advantage.[2] Hence, for our purposes, it is not necessary to clearly separate the effects of age and proficiency.

The first group of subjects was comprised of 18 grade 12 students studying French in a regular 'Core' program and the second of 12 grade 12 students who were in an advanced level class. at the same school. For both these classes, the students were approximately 17 years old and had been studying French since about grade 4 or 5. All students were native speakers of English and many had some knowledge of another language in addition to French, predominantly Hebrew or Spanish.

The third group consisted of 14 adults enrolled in the intensive Civil Service French Language Training Program. Of the adults four were non-native, but fluent speakers of English; the remainder were native English speakers. The majority had 4-5 years of previous formal French instruction with emphasis on grammatical knowledge.

Instruments

Cloze Test. This test was used to provide an index of general proficiency for each student (see for example Oller, 1973). The cloze test for the grade 12 students consisted of three French prose passages of approximately 150 words each in which every 8th word had been deleted to produce a total of 45 blanks. Pilot test results indicated, however, that a more difficult test was required for the adult group. The test chosen consisted of a French prose passage of 450 words in which every 7th word was deleted to yield a total of 49 blanks.[3]

Danish Sentence Translation Task.[4] This test was specifically developed for this study to provide an indication of subjects' ability to form inferences on the basis of minimal linguistic information. The task requires the translation of five isolated Danish sentences[5] into English. Examples of Danish/English lexical pairs are presented from which certain phonological and morphological correspondences between the two languages can be deduced. These examples are: døv - deaf; aske - ashes; hvad - what. The

transformations which underlie these pairs are presented as linguistic regularities. Further, subjects are alerted to the importance of context and similarity between languages for figuring out meaning in a foreign language.

Subjects were instructed to read the Danish Sentence and to translate it into English in a framework which was provided. The framework consisted of some key items translated into English and a blank slot in which to place each missing English word. For example, the first Danish sentence was:

1. Hver dag sidder den gode konge på balkonen, laeser en bog, og drikker et glas rødvin.

The translation was required in the following sentence frame:

1. Every _____, the _____ _____ _____ on the _____, _____ a _____, and _____ a _____ _____ _____ _____ .[6]

There were 48 English items required on the test and each subject received a score out of that total. Since our concern was primarily with meaning, an 'acceptable word' system was used for scoring.

Picture Reconstruction Task. In order to elicit the use of communication strategies when appropriate target language vocabulary is lacking, a task had to be designed which would meet three criteria — first, it had to simulate real communicative exchange in which one of the interlocutors was a monolingual speaker of the target language; second, the task had to provide an incentive for the learner to attempt to convey difficult information; and third, it was necessary to have control over the items for which the communication strategies were to be examined.

In the task developed for these purposes, the subject is asked to describe a picture so that a native speaker of French can accurately reconstruct it. The subject is given a 10" x 13" colour illustration depicting a young girl standing on a stool to hang a Christmas stocking on the fireplace mantle. Three items, a mantle clock and two lighted candles, sit on the mantle, and three fireplace tools stand beside the fireplace, a pair of bellows, a shovel and a pair of tongs.

The picture is to be reconstructed on a large flannelboard using cardboard cut-out objects with adhesive backing. To provide a shared context, the fireplace is drawn on the flannelboard. As well as the correct items, the experimenter also has available a series of incorrect items, or distractors, from which to choose when reconstructing the picture. These distractor items were based on one of the following:

1. items with semantic similarities to the target item, i.e. a wristwatch for the mantle clock;

2. items with phonetic similarities in the second language, i.e. 'chaussure' (shoe) for 'chaussette' (stocking), or cross-lingual similarities, i.e. 'cloche' (church bell) for clock, and

3. items which fit into the context of the picture, such as a poker and a basket with firewood.

Two researchers administered this task to each student individually. The first experimenter explained in English the requirements of the task to the subject. The subject was instructed to look carefully at the picture and then to describe it in detail, in French, so that the second experimenter, introduced as a native speaker of French and a non-English speaker, could reconstruct the same picture on the flannelboard without looking at the subject's illustration. Two French lexical items were provided - 'la cheminée' (fireplace) and 'le feu' (fire). Before the subject started, the reconstructor repeated the instructions in French. During the course of the task, the reconstructor selected either the appropriate item, an incorrect item, or made no selection at all, according to the instructions given by the subject. Subjects generally continued until all the correct items were placed on the board.

During the task the first experimenter noted any non-verbal or paralinguistic device used by the informant to elaborate the oral description given or possibly even to replace it.

Although there was no time limit imposed, subjects generally took about 15-30 minutes to complete the task. Occasionally, some encouragement was given or simple questions, such as "Qu'est-ce qui est à droite?, were asked, but the reconstructor refrained from speaking as much as possible. Feedback was provided by the items put on the flannelboard.

Each session was taperecorded and later transcribed.

Picture Description Task. To examine the possible differences in strategy use as a function of the experimental task, the same picture was also used for an oral description task. The subject was instructed to describe the picture in as much detail as possible, but there was no constructive component such as that provided by the flannelboard. Again, the French words for fireplace and fire were provided. Encouraging statements and questions about the identity and position of the objects were also occasionally interjected.

Design and Procedures

The experimental design and number of subjects in the criterion tasks are given in Table 1.

Table 1

Design of experiment with the number of subjects per group

	T A S K		
Age Level Group	Picture Reconstruction	Picture Description	Total
Grade 12 Regular	10	8	18
Grade 12 Advanced	6	6	12
Adult	14	-	14

All subjects in the study completed both the Cloze test and the Danish Sentence Translation Task.

The cloze tests were administered first and allotted 25 minutes, followed by the Danish Sentence Translation Task which was completed in 15 minutes. For the grade 12 students, both tests were given in one 50-minute class period.

While the adults participated only in the Picture Recreation Task, the grade 12 students of each class were randomly assigned to the Picture Recreation and Picture Description Task.

Results

The results are presented in three sections. First is a description of the taxonomy of strategies developed from our data. These strategies serve as the basis for the subsequent data analyses. In the second section we examine the selection and use of strategies as a function of three factors - group and individual differences between learners, target item, and task instructions. Finally there is a preliminary analysis of the relative effectiveness of the various strategies to convey meaning.

I. Typology of Oral Communication Strategies

The analysis of the language elicited in the task dealt only with those segments of the total discourse which referred directly to the target items. These were: (1) tabouret (stool), (2) deux chandelles (two candles), (3) horloge (clock), (4) chaussette/bas (stocking), (5) ruban (ribbon), (6) soufflet (bellows), (7) pelle (shovel) (8) pinces (tongs), the last three being fireplace instruments.

To relate communication strategies to our conception of inferencing, it was necessary to determine the alternate sources of information that would be exploited by language learners when the exact lexical item for a concept was unavailable. Accordingly, the strategies were originally conceived within an overall trichotomy which distinguishes three sources of information: the native language and/or language other than the target language, the target language, and paralinguistic features. These three sources yield respectively the categories L1-based strategies, L2-based strategies, and paralinguistic strategies. Within each of L1- and L2- based strategies, further differentiation was made on the basis of the type of information included in the utterance.[7]

1. L1-Based Strategies

a) Language switch refers to the insertion of a word or phrase in a language other than the target language, usually the learner's native language; for example:

Il y a deux candles sur la cheminée.

b) Foreignizing native language (L1) items is the creation of nonexistent or contextually inappropriate target language (L2) words by applying L2 morphology and/or phonology to L1 lexical items, for example:

1. Il y a deux /kădél/ sur la cheminée.

2. Il y a une cloche sur la cheminée.

In the second example, 'cloche' is formed by applying a French

pronunciation to the English word 'clock'. The result is a word which exists in French (churchbell) but is inappropriate in the context. It is possible that the informant knew that such a word 'cloche' exists in French, was uncertain of its meaning, and since it seemed to be derived through a phonetic manipulation of the English, tried it out in the context.

c) Transliteration, reflects the use of L2 lexicon and structure to create a (usually non-existent) literal translation of an L1 item or phrase, such as place de feu for English 'fireplace' or pièce de temps for 'timepiece'.

Although the strategies foreignizing and transliteration incorporate elements of the target language, they originate in native language knowledge.

2. L2-Based Strategies

a) Semantic contiguity is defined as the use of a single lexical item which shares certain semantic features with the target item. In our task, for example, 'tabouret' (stool), was frequently replaced by 'chaise' (chair) or 'table' (table), and 'horloge' (clock) by 'montre' (watch). In these cases the learner was selecting a word which provided an approximate translation of the unknown concept by referring to a similar but known item.

b) Description, the second strategy, has three subclassifications which indicate the information which has been incorporated into the description. These three are general physical properties, specific features, and interactional/functional characteristics.

The general physical properties refer to universal features of objects, that is, colour, size, material and spatial dimension, the latter including the concept of shape, such as "it is round", as well as location within space, e.g. "it is something that hangs on the wall". Specific distinguishing features are usually marked by the surface structure "has", e.g. "it has four legs". The interactional descriptions indicate the functions of an object and the actions that can be performed with it.

These different types of descriptions are usually used in some combination and often accompany semantic contiguity. Thus 'tabouret', for example, could be described as "Une petite chaise de bois, pour reposer les jambes quand on est fatigué, elle n'a pas de dos". This description combines semantic contiguity (une chaise), size (petite), material (de bois), function (pour reposer les jambes...), and a specific feature (elle n'a pas de dos).

c) Word coinage, the third strategy, is the creation of an L2 lexical item by selecting a conceptual feature of the target item and incorporating it into the L2 morphological system. For example, 'clock' was referred to as 'heurot', the noun suffix -ot was attached to 'heure' meaning 'time'. This strategy usually produces items which do not exist in the target language or, if they do, have a contextually inappropriate meaning.[8] Thus the noun 'souffleuse', which was given to denote 'bellows', can be categorized as an attempt on the learner's part to create a noun from 'to blow'. This coined word, however, does exist in French but means 'prompter in a theatre'. Such coincidences may even impede communication.

3. Paralinguistic Strategies

The third type of communication strategy employed during the Picture Recreation Task was non-verbal. Gestures or sounds occasionally accompanied an utterance or were used to substitute a verbal reference to a target item. No systematic analysis was performed on these strategies.

Analyses of Strategy Use

In order to determine the pattern of strategy use by subjects, the following information was tabulated —

1. number of target items known
2. number of unknown items attempted through strategy use
3. the number of strategies employed per unknown item attempted, and
4. proportion of strategies which were L1-based and L2-based.

The L2-based strategy Description frequently contained items or expressions which reflected the use of L1. For example, to convey the meaning of 'soufflet' (bellows) one subject said "avec les mains je apply le /prɛ́fýr/ de l'objet et adder de l'air". The speaker has attempted to give a functional description of the desired object, but the description contains one English insertion and two foreignizations - /prɛ́fýr/ from English 'pressure' and 'adder' from 'to add'. Both the English insertion and the foreignizations relate only indirectly to the target item. These L1-based strategies which occur within the framework of an L2-based description have been called 'embedded' and are treated separately in the analyses.

II. Determinants of Strategy Use

The reason for elaborating a typology of communication strategies is to determine systematic patterns of use as a function of our experimental factors. Differences among learners, the first factor, were examined at two levels — differences defined by age, proficiency, and inferencing ability, and individual differences (within groups) defined by proficiency, inferencing ability, and experience (primarily knowledge of other languages). The second factor was the effect of the specific target item on strategy selection. The third factor was the role of the instructions in eliciting certain strategies. Each of these three factors will be discussed in turn.

1. Differences among Learners

The analysis of group differences establishes first the nature of the differences among the three groups in terms of the experimental pretests and then relates these differences to the strategy use by the learners in these groups. On the Danish Sentence Test, the adults (mean score of 31.00) performed better than either the Grade 12 advanced class (mean score 22.33) or the Grade 12 regular class (mean score 23.20) (Comparison between adults and all students: $t_{44} = 3.23$, $p < .01$).

Since different cloze tests were used for the adults and students, comparisons could be made only between the two student classes. The advanced class obtained a mean score of 31.00 which was significantly better than the performance in the regular class in which the mean score was 25.00 ($t_{30} = 3.20$, $p < .01$). The adults, on their more difficult test, obtained a mean score of 27.36.

Four measures of strategy use were calculated and related to the learners at both the group and individual levels. These data are reported in Table 2. First is the number of target items that were both unknown and attempted by the learner. (There were virtually no cases of target items that were unknown and not attempted in this task.) There was no difference among the groups on this measure, hence the task demands were relatively equivalent for all groups. These comparisons are reported in the column 'Mean Score' in Table 2.

The second measure reports the average number of distinct strategies that were recruited for each unknown target item by each of the three subject groups. These strategies are counted as the overall attempt excluding any L1 strategies that were embedded within the framework. The differences among groups again were not significant.

The distribution of those strategies in terms of L1-based and

Table 2

Relationship between strategy use and measures of inferencing and proficiency

Strategy Use	Group	Mean Score	Danish Test r	Cloze Test r
Unknown items attempted	Adults(N=14)	5.6	-0.15	0.19
	Gd 12 Adv(N=6)	6.3	-0.41	-0.39
	Gd 12 Reg(N=10)	6.3	0.04	-0.62**
Mean no. strat/unknown item	Adults	2.7	-0.30	-0.21
	Gd 12 Adv.	3.5	-0.49	-0.35
	Gd 12 Reg.	3.1	-0.22	-0.73**
Prop. strat. that are L1-Based	Adults	0.21	-0.20	-0.65**
	Gd 12 Adv	0.02	-0.13	0.66
	Gd 12 Reg.	0.18	0.21	-0.05
Prop. strat. w/o embedded	Adults	0.88	0.50*	0.46*
	Gd 12 Adv.	0.82	0.05	0.14
	Gd 12 Reg.	0.78	0.62**	0.62**

* $p < .05$
** $p \leq .01$

L2-based, however, does distinguish among the groups. The measure 'proportion of L1-based strategies' shows that the grade 12 advanced students used significantly fewer L1-based strategies than did the other two groups ($F(2,27) = 4.73$, $p < .025$). In order to achieve the same overall strategy use as the other groups, the students in this group employed far more L2-based strategies than did those in the other two groups.

Finally, the last measure calculated indicates the proportion of the strategies that were used without the assistance of embedded strategies. A high proportion would indicate that few embedded strategies were required to convey the message in the overall major strategy while a low proportion would indicate more liberal use of L1-embedded strategies as a means of expressing the information. Although there is a tendency for the adults to use slightly fewer embedded strategies than the other two groups, the differences among the groups are not significant.

A more precise analysis is obtained by computing correlation coefficients between these four measures and the two predictor measures, the Danish Test and the Cloze Test, for the learners in each of the groups. The Pearson correlation coefficients are reported in Table 2.

A negative relationship between the number of unknown items and performance on the Cloze Test was found for the Grade 12 Regular students. Students with lower proficiency as demonstrated by performance on the Cloze Test also knew fewer of the target items than did more proficient students. This relationship was not found for the adults or the advanced students, possibly because with their higher overall proficiency, there was less difference among them in the number of target items initially unknown.

The mean number of strategies used for each unknown item was negatively related to cloze test scores for the Grade 12 Regular students. Weaker relationships in the same direction were found for the other two groups. Learners who were less proficient in the language were also less efficient in their attempts to convey meanings through appropriate selection and use of strategies.

There was a negative relationship between cloze test proficiency and the proportion of L1-based strategies for the adults only. That is, adults who scored higher on the cloze test used fewer L1-based strategies than did those who scored lower. Although there was no relationship between these two measures for the students in the Grade 12 Regular class, that is, all those students used L1-based strategies to approximately the same extent, there was a trend in the direction of a positive relationship for the Grade 12 Advanced students. On the whole, these students used very few L1-based strategies, but the correlation coefficient indicates that it was the more proficient students who used them at all.

Possibly it was the more proficient students who realized the value of relying on the L1 for certain situations and were less influenced by the usual school requirement to ignore the L1.

The proportion of strategies that were executed without the assistance of embedded strategies was positively related to both Danish and Cloze test scores for the adults and the Grade 12 Regular class. The relationship to proficiency is clear: greater mastery of the language permits the learner to express more complex intentions in the language directly without recruiting additional L1-based strategies. In addition, learners who were skilled at inferencing techniques as demonstrated by high scores on the Danish Test, were also able to generate appropriate strategies for expressing unknown items that were effective but within their limits of proficiency.

Although the correlation coefficients for the Grade 12 Advanced class were generally in a direction consistent with those for the other two groups, none achieved significance. We attribute this lack of statistical significance to the fact that there were too few subjects (N=6) in this group.

An informal assessment of other factors contributing to proficiency was also conducted for the adult group. The adults were easily divided into three groups on the basis of the Danish and Cloze Test scores - high, medium, and low. There were 5 learners in the high group, 4 in the medium group, and 5 in the low group. The learners in the high and medium groups each knew an average of 2 languages in addition to their L1 and French while the learners in the low group generally knew no other language. In addition, the learners in the high group generally had a language other than English for an L1 while those in the middle group were English native speakers. All the learners in the two high groups reported extensive travel experience while those in the low group had travelled little. There is the suggestion of a relationship between experience in speaking and using other languages and the types of abilities measured by the proficiency test and inferencing test for the adults in this group.

In Table 3 the distribution of strategies as a function of the particular strategies identified in our typology are presented for each of the three experimental groups.

For the L1-based strategies, there is both the proportion of strategies for each type when embedded strategies were excluded and when embedded strategies were included in the analysis. Although no formal analyses were conducted on these data, it appears that the three groups did not differ in their reliance on particular strategies.

There is no evidence that the three groups were selecting

Table 3

Group differences in strategy selection

	L1-BASED STRATEGIES						L2-BASED STRATEGIES				
	Language Switch		Foreignizing		Transliteration		Semantic Contiguity	Description			Coinage
								General Properties	Features	Interaction	
Subjects	$\bar{x}_1$	$\bar{x}_2$	$\bar{x}_1$	$\bar{x}_2$	$\bar{x}_1$	$\bar{x}_2$	$\bar{x}_1$	$\bar{x}_1$	$\bar{x}_1$	$\bar{x}_1$	$\bar{x}_1$
Adults N = 14	.15	.18	.06	.09	.01	.04	.15	.22	.08	.32	.01
Grade 12 Advanced N = 6	.02	.12	0	.08	0	.01	.14	.37	.1	.37	0
Grade 12 Regular N = 10	.14	.26	.04	.05	.01	.05	.12	.25	.09	.36	0

x_1 = excluding embedded strategies

x_2 = including embedded strategies

among or using the strategies in different ways. The exception to this, namely that the grade 12 advanced students were reluctant to use L1-based strategies, may be attributable to their course of study: the use of L1 in class is discouraged and these students were placed in the advanced stream precisely because they conform to classroom standards and criteria.

2. The Effect of the Target Item

In this section we examine the possibility that certain target items predispose learners to use certain strategies, that is, that the selection of a communication strategy varies as a function of the meaning to be conveyed. Accordingly, frequency distributions of the strategies used were calculated for each target item. These data are reported in Table 4.

There were few differences among the items in the extent to which they elicited any of the L1-based strategies. The item "horloge" produced a higher incidence of foreignizing than did the other items because many learners attempted to use "cloche" for "clock".

Semantic contiguity was confined mainly to four of the items: 'tabouret', 'chandelles', 'horloge', and 'chausette'. Some examples of semantic contiguity on these items were 'table' or 'chaise' for 'tabouret', 'montre' for 'horloge', and 'deux feux' for 'deux chandelles'. These substitutes were often combined with a descriptive feature, for example, 'une petite table', 'deux petits feux', 'une montre pour tout le monde à voir'.

Descriptions were examined for the type of information they contained: colour, size, spatial dimension, material, features, function. These distinctions provided a good means of discriminating among the strategies used for the items. Colour was rarely used, except for 'ruban' (.11), but neither does colour convey useful information about a concept. Size was selected as an important feature for 'tabouret' (.31) and 'horloge' (.22). 'Chausette' (.21) was referred to by aspects of spatial dimension, for example, 'c'est entre les genoux and les pointes des pieds'. Specific features were used to describe 'tabouret' (.16), particularly in noting that it does not have a back.

The functional/interactional description was frequently employed across items, particularly for the three fireplace instruments: 'soufflet' (.72), 'pinces' (.52), and 'pelle' (.51). In these cases, at least half of all the attempts produced referred to function. It is interesting to note that in the concept development literature, the function of an object and the interactions into which one can enter with an object, are identified as the primary basis for concept development. That is, the most critical or salient feature of an object is its interaction potential (see

Table 4

Distributions of strategy type per target item

Target Items	L1-based Strategies			L2-based Strategies							
					Description						
					General Properties						
	L1 insertion	Foreign-izing	Transli-teration	Semantic Contiguity	Colour	Size	Spatial Dimension	Material	Features	Inter-action/ Function	Coinage
Horloge	0.04	0.12[1]	0.01	0.16	0.03	0.22[1]	0.14	0.01	0.04	0.23[2]	0
Tabouret	0.08	0.02	0	0.29[1]	0.02	0.31[1/2]	0.01	0.02	0.16	0.09	0
Ruban	0.18	0	0	0.08	0.11	0.10	0.05	0.10	0.02	0.37[1/2]	0
Chandelles	0.19	0.04	0	0.20[1]	0.04	0.03	0.03	0.06	0.10	0.28[2]	0.03
Soufflet	0.10	0.02	0	0	0.06	0.02	0.04	0	0.02	0.72[1/2]	0.02
Pelle	0.17	0.01	0	0.03	0.01	0.11	0.08	0.03	0.05	0.51[1/2]	0
Pinces	0.06	0.02	0	0.07	0.05	0.03	0.10	0.01	0.14	0.52[1/2]	0
Chaussette	0.15	0	0	0.12	0.06	0.03	0.21	0.03	0	0.41[1/2]	0

[1] most frequently used strategy by adults

[2] most frequently used strategy by students

Nelson, 1974 for discussion). Similarly, adults and adolescents appear to be sensitive to what is most critical about an object in their attempts to convey the concepts in the absence of a simple verbal label.

The extent to which the adults and students in the study were differentially affected by these item biases was examined by comparing the most frequently used strategy for each item in each of the groups. While there was general consistency between the groups in terms of the most popular strategy per item, the adults were more flexible than the students and relied on a greater variety of strategies. Hence the most popular strategy for the adults varied more as a function of the item than it did for the students. This flexibility may provide an important advantage in overall communicative effectiveness. These data are reported by the footnotes in Table 4.

3. Task and Instructional Biases in Strategy Use

The purpose in conducting experiments such as the present study is to determine in a controlled way aspects of language use that apply beyond the experimental situation. In the case of the present study, the attempt was to simulate a communication experience in which the learner is required and motivated to convey certain information for which he/she lacks formal knowledge. To what extent, though, do the data obtained in a study depend on the type of task and type of instruction given to the informants? We approached this question by initially dividing the grade 12 students into two groups so that one was given the Picture Recreation Task (PRT) and the other the Picture Description Task (PDT). The primary difference between these is that the PRT is more similar to real communication in that it provides feedback, albeit nonverbal.

To discover differences attributable to the task, the students' oral data from the PDT and PRT were compared for the types of strategies used, the number of target items known, the average number of unknown target items for which strategies were employed, and the number of strategies used per item unknown. With the exception of foreignizing and coinage, all strategies were employed in the Picture Description Task at least once. As in the Picture Recreation Task transliteration occurred only as an embedded strategy. Neither group of students coined words; this strategy was only used by adults. Foreignizing was therefore the only strategy which students employed in the Recreation Task and not in the Description Task. Paralinguistic features had not been recorded during the Description Task, therefore, no comparison could be made.

The differences between the two types of elicitation techniques, however, is most striking in the amount of discourse produced in the students' attempts to fulfill the task requirements, that is, in describing all or most of the target items. These differences are

reflected as well in the frequency and number of strategies used to communicate unknown meanings. The means and standard deviations for the number of target items known, the number of items for which communication was attempted and the number of strategies used per item unknown in both tasks are presented in Table 5. To determine the significance level of the differences in student verbal behaviour on both tasks, t-tests were performed on those means.

Although all students knew approximately the same number of target items and were, consequently, unfamiliar with the same number of target words, the students in the Picture Recreation Task attempted to communicate the meaning of significantly more objects than did the subjects in the Description Task ($t_{28} = 6.053$, $p < .001$). Similarly, the Recreation Task motivated the students not to give up after the first trial but to continue attempting to convey meaning. The difference in the number of strategies used per unknown item is also significant ($t_{28} = 6.982$, $p < .001$).

III. The Effectiveness of the Strategies for Communicating

During the Picture Recreation Task, the communicative effectiveness of the strategies used by the speaker was spontaneously assessed by the reconstructor who provided feedback by selecting either the correct item or an inappropriate object. Although the reconstructor attempted to be as objective and consistent as possible in her decisions regarding the success of an utterance, some inconsistencies or discrepancies may have occurred. An additional assessment of the communicative effectiveness of the strategies used was therefore considered necessary. For this purpose French native speakers were asked to evaluate the acceptability of the subjects' attempts at conveying the meaning of the unknown items.

The complete information given by each subject for each item was put on a separate card. The task of the native speaker was to rank order all the cards for each of the eight target items in terms of their effectiveness in conveying the meaning of the particular item. The adults' production was ranked by ten judges and the students' speech by seven.

Generally, the native speaker judges found it possible to distribute the subjects' communicative attempts on a rank-order scale. The average reliability rating of the judges across items was .90 for the adults and .78 for the students. The students' responses were more difficult to judge and more difficult to agree upon than were the adults'. This may be due in part to the fact that the students' descriptions contained a great number of surface errors and English insertions. Since all judges knew at least some English it may have been particularly difficult for them to reach consensus upon the extent to which those English insertions interfered with their ability as native speakers of French to understand the meaning.

Table 5

Comparison between Picture Recreation (PRT) and Picture Description (PDT) Tasks

	no. of target items known			no. of unknown items attempted			no. of Strategies used per unknown item					
							Excluding embedded strategies			Including embedded strategies		
	$\bar{x}$	s.d.	t	$\bar{x}$	s.d.	t	$\bar{x}$	s.d.	t	$\bar{x}$	s.d.	t
Grade 12 Advanced												
PRT (N = 6)	1.67	1.21	.767	6.33	1.21	3.814**	3.48	1.02	4.870***	4.25	.84	7.911***
PDT (N = 6)	1.50	.55		3.67	1.21		1.36	.32		1.39	.28	
Grade 12 Regular												
PRT (N = 10)	1.20	1.03	.767	6.30	1.34	4.454***	3.11	1.04	4.935***	4.32	2.11	3.990***
PDT (N = 8)	0.88	.64					1.25	.24		1.31	.26	
Total Grade 12												
PRT (N = 16)				6.31	1.25	6.053***	3.25	1.02	6.982***	4.29	1.70	6.396***
PDT (N = 14)				3.57	1.22		1.29	.27		1.34	.26	

**p < .01
***p < .001

The rank orders assigned to each of the utterances for each target item were examined to determine the strategy (or set of strategies used in the utterance) which were judged to be most effective in conveying the meaning of the concept. Table 6 lists the strategies which received the highest and lowest average ranking for each item for each of the adults and students. In general, functional descriptions were well-regarded by the judges and were often ranked as the most effective communicative attempt. This decision by the judges concurs both with the evidence that the learners also appeared to prefer functional descriptions (see Table 4) and with the theoretical literature (referenced above) which identifies function as the most critical aspect of an object.

In addition, the most effective strategies were judged to be the same for students and adults, although the students' attempts usually included more combinations of strategies. Since it is impossible to determine which of the combined strategies was most responsible for the success of the utterance, it may be that all contribute to aspects of the meaning and that successful communication is the result of the cumulative effect.

The majority of those strategies which received the lowest rank averages were L1-based strategies, especially language switch.

In some cases the same strategy <u>type</u> is considered to be most effective and also least effective. Let us examine two functional descriptions which appeared at the opposite end of the rank order. The following description of 'pelle' obtained the highest rank average:

- une objet qui le fermier utilise

- quand il y a beaucoup de neige sur la terre et devant de ton garage, vous devez utiliser objet pour remuer le neige.

The strategy which was considered to be least effective, that is, received the lowest rank average, consisted of the following utterance:

- quelque chose pour porter les charbons

Although both refer to uses for a shovel, the first is more explicit in its description of the role of the shovel in the situation. Thus the effectiveness of the strategy depends on the kind of conceptual feature selected for description and the completeness of that description. While we may describe some strategies as being generally more effective than others, the success of these strategies nonetheless presupposes that the information is clearly stated, and that appropriate information is included.

Table 6

Communicative Effectiveness of Strategies for each Item

	Adults Strategies			Students Strategies		
ITEM	Most effective	Score	Least effective	Most effective	Score	Least effective
soufflet	Description-function	7	coinage	Description-function	8	switch
pinces	Description-function	7	switch (2x) foreignizing	Description-function	9	size function (2x)
pelle	Description-function (2x)	8	switch (3x) --- Description-function	Description-function(2x) semantic contiguity size	5	foreignizing
chandelle	Description-function	6	switch	semantic contiguity switch Description-function	7	switch
horloge	foreignizing semantic contiguity size (2x) spatial dimension	6	foreignizing	semantic contiguity size spatial dimension features, function	7	function
chaussette	colour spatial dimension function	8	semantic contiguity function switch	colour size (2x) spatial dimension (2x) function (2x)	2	switch
ruban	Description-function material	7	semantic contiguity colour spatial dimension	colour material function	6	switch (2x)
tabouret	semantic contiguity size feature	23	semantic contiguity size	semantic contiguity(2x) size (2x) features (2x) function	9	semantic contiguity size
	MEAN	7.0			6.6	

The rank ordering assigned by the judges to the utterances for each of the items indicated the relative merit of the responses within each set, that is, the effectiveness of all attempts to communicate a particular target item. Comparisons among items, however, were not possible; each rank ordering began again with every item. Thus to compare the relative effectiveness with which the learners were able to convey the meanings of each of the target items it was necessary to obtain some other measure. Accordingly, the utterances which received the highest mean ranking for each item for each of the adults and students were given to two native speakers of French to evaluate in absolute terms for their effectiveness. Each of these utterances was assigned a score out of 5, where 5 was a perfectly comprehensible description and 0 was absolutely incomprehensible. The scores of the two judges were combined, producing a single score out of 10 for each of the best-ranked utterances. Differences among items in these scores would indicate that some of the items were more easily communicated or more successfully communicated than were the others.

The effectiveness scores assigned by the native-speaker evaluators are reported in the column 'Score' in Table 6. While the adult scores are quite stable across items, the students' scores vary considerably. Thus, for the students, strategies which may have been ranked first for different items were not necessarily equally effective in conveying the meaning of the item. The adults do not show this variability. If we consider that the major factor differentiating adults and student group is level of proficiency, it may be that a consistently effective use of the strategies requires a minimal level of proficiency.

The possibility that proficiency is a precondition for effective use of communication strategies was further examined in terms of the individual subjects who were most successful in using the strategies. For the adults, all of the utterances which received the highest mean ranking by the judges had been produced by 5 of the 14 subjects. For the students, only 4 of the 16 students were responsible for all the best-ranked utterances. Moreover, the 5 adults all performed above the class mean on both the Danish and cloze tests. For the 4 students, the evidence is less clear. Only one student scored above the class mean on both tests, two scored lower on both tests, and one scored above the mean on the Cloze test and below the mean on the Danish Test.

While there is a positive relationship between proficiency and communicative effectiveness for the adults, the relationship for the students is more ambiguous. One possibility is that the students have not even achieved a sufficient level of formal competence for that relationship to be demonstrated; they do not yet have sufficient control over the language to consistently use the communication strategies effectively. Canale & Swain (in press) argue as well that communicative competence must be based on an

adequate formal basis in the target language. The relationship between proficiency and communicative effectiveness is an important issue that deserves careful examination. Our data suggest only that more proficient speakers are also better at using communication strategies effectively.

Summary and Discussion

The discussion will be organized around the three issues addressed by the study - first, the description of communication strategies used by second language learners; second, an exploration of some factors which determine the particular strategies that will be used by certain learners for certain purposes; and third, a preliminary analysis of the relative effectiveness of those strategies in achieving their communicative goals.

The typology of communication strategies developed in this study is based on a consideration of the type of information that the learner has chosen to include in the utterance. Thus the distinction between L1-based and L2-based strategies is fundamental to the typology in that the first analysis of the information is at the level of its linguistic origins. Beyond that, the analysis attempts to categorize the strategy by considering how the information relates to the target item - for example, phonologically, as in an attempt to foreignize a native language item; semantically as in an attempt to describe some aspect of the target item; or paralinguistically, as in the attempt to simulate the item through sound or gesture. The insertion of a native language word, while being a legitimate strategy, shows no attempt to capture aspects of the target language word and is thus not expected to be very effective in promoting communication. This type of classification permits qualitative differences among the strategies to be explored and the use of those strategies to be related to our notion of inferencing.

The second aspect of the study was to examine the relationship between the type of information included in a communication strategy and the type of learner who would be likely to use that strategy. By describing the use of strategies as an aspect of the general inferencing strategy in that a variety of information is exploited in order to formulate and test linguistic hypotheses, it is possible to evaluate the inferences incorporated into the strategies. Because the L2-based strategies generally required the learners to invoke more information and more types of information than did the L1-based strategies, these were considered to represent a greater effort of inferencing. Consequently, we predicted that learners who demonstrate an ability to use the general inferencing strategy effectively should also be better at using the communication stra-

tegies that are more dependent upon inferences, namely, the L2-based strategies. Conversely, learners who show little skill in inferencing should be more likely to use L1-based strategies, particularly L1 insertion.

Relationships were also expected to occur between the level of proficiency of the learner and the type of strategy produced. The complicated descriptions typical of some of the L2-based strategies require a certain level of competence in the language, irrespective of the inferencing ability of the learner. Thus, level of study should interact with inferencing ability to determine the learners who would use the L2-based strategies. Our data suggest that proficiency is the main delimitor of strategy use and that inferencing acts as a secondary determinant within the bounds of the learner's proficiency. Better learners, defined by our inferencing and proficiency tests, were both more efficient in their strategy use in that they required fewer strategies to convey the information and more effective in their communication in that they relied more on the L2-based strategies considered by our judges to be more meaningful.

We consider the relationship between inferencing, proficiency, and strategy use to be that inferencing ability determines strategy selection and use once proficiency has achieved a sufficient level of expertise. This relationship is stated in a typical threshold-hypothesis paradigm; certain benefits of L2 knowledge are accessible only with the attainment of minimally acceptable levels of linguistic competence.

The possible relationships between proficiency, inferencing, and communication strategies is important because they bear on a critical current issue in the field of second language pedagogy, namely, the nature of communicative competence. The possibility that a particular level of competence is a prerequisite for effective communication is consistent with the position argued by Canale and Swain (in press) in their extensive review of the issue.

Our study also examined the role of the target item and the task instruction in determining the strategy selection of the learners. Both these factors were found to be important; communicative attempts were adapted to the contextual needs given by the situation. This finding is consistent with recent investigations in both first and second language learning which have emphasized the need to consider the contextual aspects of utterances in order to interpret the more traditional linguistic analyses that have provided most of the data for language study.

The effectiveness of the various strategies collected in our speech samples were analysed only in a rather primitive manner; rank orderings were provided for the utterances and the best utterance for each item was additionally assigned a value score for its

effectiveness. Through this procedure we were able to demonstrate that some of the strategies, particularly functional descriptions, were generally more effective than other of the strategies and that some learners were more able to select the most appropriate or most effective strategy than were others. A more careful study of the effectiveness of the various strategies would require greater control over the target items being conveyed, the learner characteristics measured, and the scoring procedures for the utterances. Our preliminary results, however, indicate that such a study would yield promising information on these relationships.

Given the current concern among language learners, teachers, and researchers for communicating in a second language, it is important to identify the components of successful communication and factors with which it is associated. Ultimately our concern must be with a broader concept of language use and a greater variety of linguistic interactions than those directly examined by our study. But by limiting our interest to a single aspect of language use, namely, describing concrete objects without the benefit of the correct name, and a single type of interaction, namely communicating to an interlocuter who indicates only that she does or does not understand the message in context, some of those components and factors have been revealed. The next step must be to relax our empirical constraints and explore the generalizability of our findings to larger issues in the problem of how people learn and use language.

Footnotes

1. This study was funded by a grant from the Department of the Secretary of State, Canada. We are indebted to Joan Howard for her work in conducting the study.

2. Proficiency judgements are based on both levels of formal study in class and performance on a cloze test.

3. This cloze test is used by the Bilingual Education Project, Ontario Institute for Studies in Education, and has been administered to grades 6 and 7 of early total French Immersion and to grades 8, 11, 12, and 13 of late French Immersion.

4. We are indebted to Craig Chaudron, our indispensable "Danish Consultant".

5. In order to simplify the task and increase the success of the inferences, the Danish used in the sentences was modified by violating certain rules of Danish grammar. The result was a slightly artificial but more regular language code.

6. The correct answer is: Every day, the good king sits on the balcony, reads a book, and drinks a glass of red wine.

7. Since our concern was with the content and not the structure of the message, grammatical and other surface errors were ignored in the analysis.

8. The item 'cloche' for 'clock' does not qualify as word coinage because the word was formed by manipulating an English word, not by creating a French word from French roots.

References

Bialystok, E. The role of conscious strategies in second language proficiency. Canadian Modern Language Review, 1979, 35, 372-394.

Blum, S. and Levenston, E.A. Universals of lexical simplification. Language Learning, 1978, 28, 399-415.

Canale, M. & Swain, M. Theoretical bases of communicative approaches to second language teaching and testing. Applied Linguistics, in press.

Dittmar, N. and Rieck, B.O. An exploratory study of the verbal organization of L2 tense marking in an elicited translation task by Spanish immigrants in Germany. Berlin: Freie Universität, Manuscript, 1979.

Hamayan, E.V. and Tucker, G.R. Strategies of avoidance used by native and non-native speakers of French. Working Papers on Bilingualism, 1979, 17, 84-96.

Munby, J. Communicative syllabus design. Cambridge: Cambridge University Press, 1978.

Nelson, K. Concept, word and sentence. Interrelations in acquisition and development. Psychological Review, 1974, 81, 267-285.

Oller, John W. Jr., Cloze tests of second language proficiency and what they measure. Language Learning, 1973, 23, 501-519.

Savignon, S.J. Communicative competence: An experiment in foreign-language teaching. Philadelphia: Centre for Curriculum Development, 1972.

Tarone, E. Conscious communication strategies in Interlanguage: A progress report. In D.H. Brown, C.A. Yorio and R.H. Crymes, (Eds.), On TESOL '77. Teaching and learning English as a second language: Trends in research and practice. Selected papers from the 11th TESOL Convention in Miami Beach. Washington, D.C., TESOL, 1977.

Tarone, E., Cohen, A., & Dumas, G. A closer look at some interlanguage terminology. Working Papers on Bilingualism, 1976, 9, 76-90.

Van Ek, J.A. The threshold level. Strasbourg: Council of Europe, 1975.

Varadi, T. Strategies of target language learning communication. Paper presented at the VI Conference of the Romanian-English Linguistics Project in Timisoara, 1973.

Widdowson, H.G. Teaching language as communication. Oxford: Oxford University Press, 1978.

Wilkins, D.A. Notional syllabuses. London: Oxford University Press, 1976.